HOW YOUR BRAIN UNDERSTANDS WHAT YOUR EAR HEARS		
New Mexico Science Content Standards– Grades 6 - 8		
Science Standards - Grade 6		
Lesson	**Strand and Benchmark**	**Performance Standard**
3	**I – I – I - 1**	Construct appropriate graphs from data and develop qualitative and quantitative statements about the relationships between variables being investigated.
1, 3, 5	**I – I – I - 2**	Examine the reasonableness of data supporting a proposed scientific explanation.
1, 3, 4, 5	**I – I – I - 3**	Justify predictions and conclusions based on data.
1, 3	**I – I – II - 1**	Understand that scientific knowledge is continually reviewed, critiqued, and revised as new data become available.
All lessons	**I – I – II - 2**	Understand that scientific investigations use common processes that include the collection of relevant data and observations, accurate measurements, the identification and control of variables, and logical reasoning to formulate hypotheses and explanations.
1, 2, 3, 5	**I – I – II - 3**	Understand that not all investigations result in defensible scientific explanations.
2, 3, 4, 5	**I – I – III - 1**	Evaluate the usefulness and relevance of data to an investigation.
3, 4, 5	**I – I – III - 2**	Use probabilities, patterns, and relationships to explain data and observations.
3, 4	**II – I – II – 1**	Identify various types of energy (e.g. heat, light, mechanical, electrical, chemical, nuclear).
1, 3, 4	**II – I – II - 4**	Understand that some energy travels as waves (e.g., seismic, light, sound), including: the sun as source of energy for many processes on Earth, different wavelengths of sunlight (e.g., visible, ultraviolet, infrared), vibrations of matter (e.g., sound, earthquakes), and different speeds through different materials.
3, 4, 5	**III – I – I - 1**	Examine the role of scientific knowledge in decisions (e.g., space exploration, what to eat, preventive medicine and medical treatment).
Science Standards - Grade 7		
Lesson	**Strand and Benchmark**	**Performance Standard**
1, 3, 4, 5	**I – I – I - 1**	Use a variety of print and web resources to collect information, inform investigations, and answer a scientific question or hypothesis.

1, 3, 4	**I – I – I - 2**	Use models to explain the relationships between variables being investigated.
3, 4	**I – I – II - 2**	Critique procedures used to investigate a hypothesis.
1, 3, 4, 5	**I – I – II - 3**	Analyze and evaluate scientific explanations.
3	**I – I – III - 1**	Understand that the number of data (sample size) influences the reliability of a prediction.
3	**I – I – III - 2**	Use mathematical expressions to represent data and observations collected in scientific investigations.
3, 4	**I – I – III - 3**	Select and use an appropriate model to examine a phenomenon.
4	**II – II – II - 5**	Understand that some characteristics are passed from parent to offspring as inherited traits and others are acquired from interactions with the environment.
4	**II – II – III - 1**	Understand that organisms are composed of cells and identify unicellular and multicellular organisms.
4	**II – II – III - 2**	Explain how organs are composed of tissues of different types of cells (e.g., skin, bone, muscle, heart, intestines).
4	**II – II – III - 3**	Understand that many basic functions of organisms are carried out in cells, including: growth and division to produce more cells (mitosis), specialized functions of cells (e.g., reproduction, nerve-signal transmission, digestion, excretion, movement, transport of oxygen).
4, 5	**II – II – III – 5**	Describe how some cells respond to stimuli (e.g. light, heat, pressure, gravity).
4, 5	**II – II – III - 6**	Describe how factors (radiation, UV light, drugs) can damage cellular structure or function.
4, 5	**III – I – I – 2**	Analyze how technologies have been responsible for advances in medicine (e.g. vaccines, antibiotics, microscopes, DNA technologies).
Science Standards - Grade 8		
Lesson	**Strand and Benchmark**	**Performance Standard**
1, 2, 3, 4	**I – I – I - 1**	Evaluate the accuracy and reproducibility of data and observations.
1, 2, 3, 4	**I – I – I - 2**	Use a variety of technologies to gather, analyze and interpret scientific data.
3	**I – I – I - 3**	Know how to recognize and explain anomalous data.
All lessons	**I – I – II - 1**	Examine alternative explanations for observations.
3, 4	**I – I – II - 2**	Describe ways in which science differs from other ways of knowing and from other bodies of knowledge (e.g., experimentation, logical arguments, skepticism).

3, 4	**I – I – II - 3**	Know that scientific knowledge is built on questions posed as testable hypotheses, which are tested until the results are accepted by peers.
3	**I – I – III - 1**	Use mathematical expressions and techniques to explain data and observations and to communicate findings (e.g., formulas and equations, significant figures, graphing, sampling, estimation, mean).
3, 4	**I – I – III - 2**	Create models to describe phenomena.
3, 4, 5	**II – I – II - 6**	Understand that vibrations of matter (e.g., sound, earthquakes, water waves) carry wave energy, including: sound transmission through solids, liquids, and gases, relationship of pitch and loudness of sound to rate and distance (amplitude) of vibration, and ripples made by objects dropped in water.
4, 5	**III – I – I - 1**	Analyze the interrelationship between science and technology (e.g., germ theory, vaccines).
New Mexico Mathematics Content Standards – Grades 6 - 8		
Mathematics Standards - Grade 6		
Lesson	**Benchmark**	**Performance Standard**
3, 5	**1.A.2**	Use equivalent representations for rational numbers (e.g., integers, decimals, fractions, percents, ratios, numbers with whole-number exponents).
3, 5	**1.A.3**	Use appropriate representations of positive rational numbers in the context of real-life applications.
3	**1.B.1**	Calculate multiplication and division problems using contextual situations.
3	**1.B.3**	Demonstrate the relationship and equivalency among ratios and percents.
3, 5	**1.B.5**	Explain and perform: whole number division and express remainders as decimals or appropriately in the context of the problem, addition, subtraction, multiplication, and division with decimals, addition and subtraction with integers, and addition, subtraction, and multiplication with fractions and mixed numerals.
3, 5	**1.C.3**	Determine if a problem situation calls for an exact or approximate answer and perform the appropriate computation.
3	**1.C.6**	Interpret and use ratios in different contexts.
3	**2.A.4**	Explain and use the relationships among ratios, proportions, and percents.
3	**2.B.1**	Solve problems involving proportional relationships.
3	**2.B.4**	Demonstrate that a variable can represent a single quantity that changes.
3	**2.B.5**	Demonstrate how changes in one variable affect other variables.

3	**2.C.2**	Create, explain, and use mathematical models such as: Venn diagrams to show the relationships between the characteristics of two or more sets, equations and inequalities to model numerical relationships, three-dimensional geometric models, and graphs, tables, and charts to interpret and analyze data.
3	**2.D.2**	Solve problems that involve change using proportional relationships.
3	**4.A.3**	Select and use units of appropriate size and type to measure angles (e.g., degrees, radians), perimeter, area, and capacity in both U.S. customary and metric systems.
3	**4.B.1**	Apply various measurement techniques and tools, units of measure, and degrees of accuracy to find accurate rational number representations for length, liquid, weight, perimeter, temperature, and time.
3	**4.B.4**	Select and justify the selection of measurement tools, units of measure, and degrees of accuracy appropriate to the given situation.
3, 4, 5	**5.A.5**	Solve problems by collecting, organizing, displaying and interpreting data.
3	**5.A.6**	Compare different samples of a population with the entire population and determine the appropriateness of using a sample.
3	**5.A.11**	Formulate and solve problems by collecting, organizing, displaying, and interpreting data.
3	**5.B.1**	Choose an appropriate graphical format to organize and represent data.
3	**5.B.4**	Use data samples of a population and describe the characteristics and limitations of the sample.
3	**5.C.2**	Conduct observations, surveys, experiments and/or simulations, record the results in charts, tables, or graphs, and use the results to draw conclusions and make predictions.
3	**5.C.4**	Compare expected results with actual results in a simple experiment.
Mathematics Standards - Grade 7		
Lesson	**Benchmark**	**Performance Standard**
3, 5	**1.A.3**	Use properties of the real-number system to explain reasoning and to formulate and solve real-world problems.
3, 5	**1.B.1**	Add, subtract, multiply, and divide rational numbers (e.g., integers, fractions, terminating decimals) and take positive rational numbers to whole-number powers.
3	**2.A.2**	Represent a variety of relationships using tables, graphs, verbal rules, and possible symbolic notation, and recognize the same general pattern presented in different representations.
3	**2.B.7**	Use letters as variables in mathematical expressions to describe how one quantity changes when a related quantity changes.

3	**4.A.2**	Select and use the appropriate size and type of unit for a given measurement situation.
3	**4.B.3**	Solve problems involving scale factors, ratios, and proportions.
3	**5.A.2**	Select and use appropriate representation for presenting collected data and justify the selection.
3	**5.A.8**	Identify and explain the misleading representations of data.
3, 5	**5.A.9**	Collect, organize, and represent data sets that have one or more variables and identify relationships among variables within a data set.
3, 5	**5.B.2**	Know various ways to display data sets (e.g., stem and leaf plot, box and whisker plot, scatter plots) and use these forms to display a single set of data or to compare two sets of data.
3, 5	**5.B.3**	Use the analysis of data to make convincing arguments.
3, 5	**5.B.4**	Use appropriate technology to gather and display data sets and identify the relationships that exist among variables within the data set.
3	**5.B.5**	Use data samples of a population and describe the characteristics and limitations of the sample.
3, 5	**5.C.2**	Analyze data to make accurate inferences, predictions, and to develop convincing arguments from data displayed in a variety of forms.
Mathematics Standards - Grade 8		
Lesson	**Benchmark**	**Performance Standard**
3	**1.A.2**	Demonstrate the magnitude of rational numbers (e.g., trillions to millions).
3, 5	**1.B.2**	Perform arithmetic operations and their inverses (e.g., addition/subtraction, multiplication/division, square roots of perfect squares, cube roots of perfect cubes) on real numbers.
3	**1.C.4**	Use real number properties to perform various computational procedures and explain how they were used.
3	**1.C.6**	Select and use appropriate forms of rational numbers to solve real-world problems including those involving proportional relationships.
3	**2.A.1**	Move between numerical, tabular, and graphical representations of linear relationships.
3	**2.A.2**	Use variables to generalize patterns and information presented in tables, charts, and graphs.
3, 5	**2.C.1**	Generate different representations to model a specific numerical relationship given one representation of data (e.g., a table, a graph, an equation, a verbal description).
3, 5	**5.A.2**	Generate, organize, and interpret real numbers in a variety of situations.

3, 5	**5.A.3**	Organize, analyze, and display appropriate quantitative and qualitative data to address specific questions including: frequency distributions, plots, histograms, bar, line, and pie graphs, diagram and pictorial displays, and charts and tables.
3, 5	**5.A.6**	Develop an appropriate strategy using a variety of data from surveys, samplings, estimations, and inferences to address a specific problem.
3, 5	**5.B.2**	Generate, organize, and interpret real number and other data in a variety of situations.
3, 5	**5.B.3**	Analyze data to make decisions and to develop convincing arguments from data displayed in a variety of formats that include: plots, distributions, graphs, scatter plots, diagrams, pictorial displays, charts and tables, and Venn diagrams.
3, 4, 5	**5.B.4**	Interpret and analyze data from graphical representations and draw simple conclusions (e.g., line of best fit).
3, 5	**5.B.5**	Evaluate and defend the reasonableness of conclusions drawn from data analysis.
3, 5	**5.B.8**	Use appropriate technology to display data as lists, tables, matrices, graphs, and plots and to analyze the relationships of variables in the data displayed.
3, 4, 5	**5.C.3**	Conduct simple experiments and/or simulations, record results in charts, tables, or graphs, and use the results to draw conclusions and make predictions.
3	**5.C.4**	Compare expected results with experimental results and information used in predictions and inferences.
New Mexico Language Arts Content Standards – Grades 6 - 8		
Language Arts Standards - Grade 6		
Lesson	**Benchmark**	**Performance Standard**
All lessons	**I – A – 6**	Interact appropriately in group settings.
All lessons	**I – B – 1**	Interpret and synthesize information from a variety of sources by: reviewing the characteristics of informational works, restating and summarizing information, determining the importance of information, making connections to related topics and information, monitoring comprehension, drawing inferences, and generating questions.
3	**I – B – 2**	Use multiple sources of print and non-print information in developing informational materials such as brochures, newsletters, and advertisements by: exploring a variety of sources that provide information (e.g., books, newspapers, Internet, electronic databases, CD-ROMs), and distinguishing between primary and secondary sources.

2, 3, 4, 5	**I – B – 3**	Organize information gathered for a research topic into major components based on appropriate criteria.
1, 2, 3, 5	**I – C – 3**	Develop and apply appropriate criteria to evaluate the quality of communication by: using knowledge of language structure and literary or media techniques, drawing conclusions based on evidence, reasons, or relevant information, and considering the implications, consequences, or impact of those conclusions.
All lessons	**I – D – 1**	Increase fluency, comprehension, and insight through meaningful and comprehensive reading instruction by: using effective reading strategies to match type of text, reading self-selected literature and other materials of individual interest, reading selections and other materials assigned, discussing selections in teacher-student discussions and small groups, and taking an active role in whole-class seminars.
All lessons	**I – D – 2**	Generate questions to be answered while reading and reflect on what has been learned after reading.
All lessons	**I – D – 4**	Follow oral and written directions for a procedure.
All lessons	**II – A – 1**	Assume a variety of roles in group discussions (e.g., active listener, discussion leader, facilitator, reporter/synthesizer).
All lessons	**II – A - 2**	Clarify, illustrate, and expand upon topics in discussions.
All lessons	**II – B – 9**	Support opinions expressed with detailed evidence and with visual or media displays that use appropriate technologies.
All lessons	**II – C – 1**	Compose a variety of writings that express individual perspectives drawn from personal or related experience by: drafting, revising, editing, and proofreading own written work, using direct feedback from peers to revise content, and writing for public and private audiences.
Language Arts Standards - Grade 7		
Lesson	**Benchmark**	**Performance Standard**
All lessons	**I – A – 2**	Respond to informational materials that are read, heard, or viewed by: summarizing the information, determining the importance of the information, making connections to related topics/information, monitoring comprehension, drawing inferences, and generating questions.
All lessons	**I – B – 2**	Interpret and synthesize information by responding to information that is read, heard, or viewed.
3	**I – B – 3**	Develop informational products and/or presentations that cite multiple print and non-print sources by: identifying and using appropriate primary and secondary sources, comparing, contrasting, and evaluating information from different sources about the same topic, and evaluating information for extraneous details, inconsistencies, relevant facts, and organization.
All lessons	**I – C – 2**	Refine critical thinking skills and develop criteria that evaluate arguments and judgments by: stating a firm judgment, justifying the judgment with logical, relevant reasons, clear examples, and supporting details, and creating an organizing structure appropriate to purpose, audience, and context.

All lessons	**I – D – 4**	Use knowledge of context and vocabulary to understand informational text.
All lessons	**II – A – 4**	Interact in group discussions by: offering personal opinions confidently without dominating, giving valid reasons that support opinions, and soliciting and considering others' opinions.
All lessons	**II – C - 3**	Produce research reports and technical writings that communicate information effectively to a specific audience.
Language Arts Standards - Grade 8		
Lesson	**Benchmark**	**Performance Standard**
All lessons	**I – A – 2**	Interact in group activities and/or seminars to: share personal reactions to questions raised, give reasons and cite examples from texts to support opinions, clarify, illustrate, or expand on a response, and ask classmates for similar expansion.
All lessons	**I – B – 1**	Use information for specific tasks by: analyzing and evaluating information to extend ideas, analyzing and evaluating themes and central ideas in relation to personal and societal issues, and creating a research product in both written and presentation form.
All lessons	**I – B – 2**	Use images, videos, and visual representations as informational research tools.
1, 3, 5	**I – C – 2**	Analyze the inferences and conclusions from fictional and non-fictional contexts, events, characters, settings, and themes.
All lessons	**I – D – 3**	Recognize when information presented in a text is new knowledge and describe how it can be used.
All lessons	**II – A - 2**	Create and present arguments that persuade by: engaging the audience by establishing a context, creating a persona, and developing interest, developing an idea that makes a clear and informed conclusion, arranging details, reasons, and examples persuasively, and anticipating and addressing reader/listener concerns and counter-arguments.
New Mexico Health Content Standards – Grades 5 - 8		
Lesson	**Benchmark**	**Performance Standard**
5	**1.A**	Describe/Understand risk factors and their association with health consequences in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental, social and emotional well-being.
5	**1.B**	Identify/Understand how healthy alternatives to unhealthy behaviors in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental, social and emotional well-being (i.e. abstinence, selection of healthy food choices, "natural highs", etc.).

5	**1.C**	Explain/Analyze how personal daily choices can affect future health status.
5	**1.E**	Describe/Analyze the impact of family history, cultural values, social systems, and environmental influences on mental, emotional, social, and physical health during adolescence in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental, social and emotional well-being.
5	**1.K**	Explain/Analyze how the school, religion, culture, community, society and media along with other outside influences such as federal, state or local laws, policies, etc. impact personal health decisions.
5	**1.M**	Identify/Analyze health risks in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental, social and emotional well-being.
5	**1.N**	Identify/Analyze consequences of health risks in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental, social and emotional well-being.
5	**1.O**	Identify/Analyze ways to reduce health risks in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental, social and emotional well-being (i.e. abstinence, selection of healthy food choices, etc.).
4, 5	**1.P**	Identify health care providers in the community and available services in areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental, social and emotional well-being.
4, 5	**1.R**	Identify/Understand how family history, genetics and preventive health care can affect personal health.
4, 5	**1.S**	Identify how family history, genetics and preventive health care can affect personal health in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental, social and emotional well-being.
4, 5	**1.T**	Identify how lifestyle choices can affect personal health in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental, social and emotional well-being.
5	**3.A**	Identify/Analyze the significance of personal responsibility for health behaviors in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity, personal safety, mental, social and emotional well-being.
5	**3.B**	Describe the consequences of personal health choices and their effects. (Grades 5/6 only)

5	**3.B**	Use decision making skills to determine personal health goals in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental, social and emotional well -being. (Grades 7/8 only)
5	**3.C**	Describe the relationship between health behaviors and well-being in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental, social and emotional well-being. (Grades 5/6 only)
5	**3.D**	Determine/Compare and contrast relationship between health behaviors and health outcomes in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental, social and emotional well-being (i.e. the relationship between physical activity, nutrition and chronic disease; the relationship between sexual activity and teen pregnancy, etc.).
4, 5	**4.J**	Describe/Interpret how advances in technology and how they positively and negatively impact personal and family health (i.e. use of computers and TVs. vs. physical activity time, effects on communication skills, access to medical care, etc.).
5	**7.A**	Examine/Analyze different ways to communicate health issues in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental; social and emotional well-being.
5	**7.B**	Recognize/Define and analyze information and opinions about health issues in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety, mental, social and emotional well-being.
5	**7.D**	Role-play how to help others make healthy choices in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental; social and emotional well-being.